

## ABSTRACT OF THE DISCLOSURE

An arrangement is provided for using bit vector toggling to achieve concurrent mark-sweep garbage collection in a managed runtime system. A heap may be divided into a number of heap blocks. Each heap block may contain a mark bit vector pointer, a sweep bit vector pointer, and two bit vectors of which one may be initially pointed to by the mark bit vector pointer and used for marking and the other may be initially pointed to by the sweep bit vector pointer and used for sweeping. At the end of the marking phase for a heap block, the bit vector used for marking and the bit vector used for sweeping may be toggled so that marking phase and sweeping phase may proceed concurrently and both phases may proceed concurrently with mutators.